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WILSON SONSINI GOODRICH & ROSATI  
 650 PAGE MILL ROAD  
 PALO ALTO, CA 943041050

EXAMINER

AVELLINO, JOSEPH E

ART UNIT	PAPER NUMBER
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2143

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/684,706

Applicant(s)

GELVIN ET AL.

Examiner

Joseph E. Avellino

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-83 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-83 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/30/2001.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: See Continuation Sheet.

Continuation of Attachment(s) 6). Other: IDS mailed: 06/29/2001, 04/05/2001, 02/26/2001.

### DETAILED ACTION

1. Claims 1-83 are presented for examination. Claims 1, 63, 80, and 83 being independent.

### *Specification*

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### *Double Patenting*

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-83 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-41 of U.S. Patent No. 6,735,630 (Gelvin et al.). Although the conflicting claims are not identical, they are not

patentably distinct from each other because the recite limitations in the claims which do not render two patentably distinct inventions.

5. For example, claim 1 of the patent recites all the limitations of claim 1 in the application except that "functions of the at least one node are remotely controllable using the at least one client computer" (claim 1) is recited in the application whereas the patent recites "remotely controlling at least one function of the plurality of network elements" (col. 77, lines 28-29) not specifically by the one client computer. However this would be an obviously inferred from the scope of the claim that the client computer remotely controls the node.

6. Claims 2-83 recite limitations upon the invention which are deemed to be obvious variations of the invention and therefore are rejected for similar reasons as stated above.

7. Furthermore, Claims 1-83 are provisionally rejected under the judicially created doctrine of double patenting over claims 1-51 of copending Application No. 09/684742. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: both applications provide claims directed towards a sensor network coupling a plurality of network elements together which can be remotely controlled from a client computer, collecting data from

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the environment, providing node resource information, and distributing storage and processing of the collected data among the plurality of network elements. The current application (i.e. '706) recites further limitations that the node resource information includes node resource cost and message priority, however it is well known that the node resource information disclosed in the '742 application can be broadly construed to include "node resource cost and message priority" and therefore would inherently include these limitations in these claims.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

8. Claims 2-83 recite limitations upon the invention which are deemed to be obvious variations of the invention and therefore are rejected for similar reasons as stated above.

#### ***Claim Rejections - 35 USC § 112***

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claim 36 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim recites the limitation "using the assembly packets" which lacks antecedent basis.

***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 11-12, 14, 16, 18, 21, 28-29, 32, 33, 36, 42-44, 46-47, 50-53, 56-61, and 80-83 are rejected under 35 U.S.C. 102(e) as being anticipated by Clare et al. (USPN 6,414,955) (hereinafter Clare).

12. Referring to claim 1, Clare discloses a sensor network comprising a plurality of network elements including:

at least one node (Figures 1-10) coupled among a monitored environment (col. 6, lines 10-30) and at least one client computer (the Office takes the term "client computer" to be broadly construed as "any node which is accessible by a user of the system") (col. 14, lines 12-34),

wherein functions of the at least one node are remotely controllable using the at least one client computer (col. 14-lines 12-34; col. 15, lines 13-16),

wherein the at least one node provides node information including node resource cost (i.e. network self-organization and routing) and message priority to the plurality of network elements (col. 15, lines 10-24 and 43-56),

wherein the data processing is distributed through the sensor network in response to the node information (col. 18, lines 35-64).

13. Referring to claim 2, Clare discloses the at least one node includes sensing, processing, communications, and storage devices supporting a plurality of processing and protocol layers (col. 19, line 29 to col. 21, line 41).

14. Referring to claim 3, Clare discloses the sensor network supports wireless communications (e.g. abstract).

15. Referring to claim 11, Clare discloses at least one local user is coupled to the at least one node (col. 14, lines 12-34).

16. Referring to claim 12, Clare discloses at least one redundant information pathway is established among the plurality of network elements (Figure 3).

17. Referring to claim 14, Clare discloses the plurality of node types includes at least one node of a first type (user node) and at least one node of a second type (sensor node) (Figure 14; col. 14, lines 12-34);



18. Referring to claim 16, Clare discloses the plurality of network elements automatically organize in response to the node information, wherein the automatic organizing comprises automatically controlling data transfer, processing and storage within the network (col. 6, line 35 to col. 18, line 1).

19. Referring to claim 18, Clare discloses the data processing is controlled using at least one processing hierarchy, controlling communications among the plurality of network elements (col. 15, lines 10-24).

20. Referring to claim 21, Clare discloses the functions of the at least one node include data acquisition (col. 15, lines 10-15).

21. Referring to claim 28, Clare discloses controlling data processing and data transmission in response to a decision probability of a detected event (col. 15, lines 10-15).

22. Referring to claim 29, Clare discloses the at least one node includes at least one seismic sensor (col. 19, lines 30-43).

23. Referring to claim 32, Clare discloses the plurality of network elements are self assembling, wherein search and acquisition modes of the node search for participating elements (e.g. abstract).

24. Referring to claim 33, Clare discloses the plurality of network elements are self-assembled into a multi-cluster network (i.e. defining neighbor nodes such as communicating neighbors and interfering neighbors) (col. 6, lines 35-62).

25. Referring to claim 36, Clare discloses synchronism is established among the plurality of network elements using the assembly packets

26. Referring to claim 42, Clare discloses data is collected by the node and at least one operation is performed on the data including energy detection (col. 20, lines 15-56).

27. Referring to claim 43, wherein the routing, processing, storing and fusing are performed in response to at least one result of the energy detection (col. 20, lines 15-56).

28. Referring to claim 44, Clare discloses the routing comprises selecting a data type for routing, selecting one of the plurality of elements to route the data, selecting a route, and routing the data (i.e. a sensor device transmitting data to a user node for display) (col. 18, lines 35-65).

29. Referring to claim 46, Clare discloses the processing comprises selecting at least one data type for processing, selecting at least one processing type, selecting at least one of the plurality of network elements to perform the selected at least one processing type, and transferring the selected at least one data type to the selected at least one of the plurality of network elements using at least one route through the sensor network (col. 18, lines 35-64).

30. Referring to claim 47, Clare discloses the selection of at least one processing type comprises determining at least one probability (i.e. decision-making) associated with a detected event (monitored environment settings) and selecting at least one processing type in response to the at least one probability (i.e. if the decision is true, do something different than if the decision is false) (Figure 15; col. 18, lines 35-64).

31. Referring to claim 52, Clare discloses the at least one node includes a bi-static sensor and a generator for producing at least one energy beam that is radiated from the plurality of nodes, wherein the at least one energy beam comprises a combined probe beam and a signal code for beam intensity control and propagation management, wherein the at least one energy beam is modulated in time to provide an identifying code corresponding to a source node, wherein the at least one energy beam is acoustic (col. 22, lines 47 to 67).

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32. Referring to claim 53, Clare discloses determining a position of the at least one node (col. 22, lines 35-67).

33. Referring to claim 56, Clare discloses using a GPS device providing location and time information (col. 7, lines 58-67).

34. Referring to claim 57, Clare discloses the node has a communication modem (i.e. a wireless antenna) (Figure 14 and related portions of the disclosure).

35. Referring to claim 58, Clare discloses communications uses multihop communications (Figures 1-10).

36. Referring to claim 59, Clare discloses the monitored environment is an outdoor area (col. 7, lines 58-67).

37. Referring to claim 60, Clare discloses supporting short range and long range communications (Figure 1).

38. Referring to claim 61, Clare discloses the node is contained in a sealed and waterproof system (Figure 14, and related portions of the disclosure).

39. Claims 50, 51, 80-83 are rejected for similar reasons as stated above.

***Claim Rejections - 35 USC § 103***

40. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

41. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 30, 45 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clare in view of Official Notice.

42. Referring to claim 30, Clare discloses the invention substantively as described in claim 29. Clare does not specifically state the one sensor is external to the one node, however "Official Notice" is taken that both the concept and advantages of providing for an external sensor to the node is well known and expected in the art. It would have

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been obvious to one of ordinary skill in the art to include an external sensor to provide easy accessibility to the sensor by a repairman, facilitating the ease of future upgrades or replacements.

43. Referring to claim 45, Clare discloses the invention substantively as described in claim 44. Clare does not specifically disclose transmitting data in the message as a code in a codebook. "Official Notice" is taken that both the concepts and advantages of providing for transmitting codes in messages is well known and expected in the art. It would have been obvious to one of ordinary skill in the art to include transmitting codes from a codebook in messages to the system of Clare to conserve bandwidth in a low-power system, thereby conserving available power for the network.

44. Referring to claim 55, Clare discloses the invention substantively as described in claim 1. Clare does not specifically state protecting communications among the elements using a public key security protocol. "Official Notice" is taken that both the concept and advantages of providing for public key encryption in wireless devices is well known and expected in the art. It would have been obvious to one of ordinary skill in the art to include public key encryption to the system of Clare to provide a basic level of security, thereby reducing the occurrences of eavesdropping by hackers and malcontents.

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Claims 4-10, 13, 17, 19, 25, 38-41, 48-49, and 62-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clare in view of Myer et al. (USPN 6,615,088) (hereinafter Myer).

45. Referring to claim 4, Clare discloses the invention substantively as described in claim 1. Clare does not specifically disclose the network includes a gateway, a server, and at least one hybrid wired and wireless network. Myer discloses another sensor network which includes at least one gateway 12, at least one server 25, and at least one hybrid wireless and wired network (Figure 1; col. 2, lines 52-67). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Myer with Clare to facilitate device configuration in a network as supported by Myer (col. 1, lines 26-30).

46. Referring to claims 5 and 6, Clare discloses the invention substantively as described in claim 1. Clare does not disclose the at least one gateway performs management of communications with at least one remote user. Myer discloses the at least one gateway node (control network portal 12) performs management of communications with at least one remote user (col. 4, lines 28-50). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Myer with Clare to facilitate device configuration in a network as supported by Myer (col. 1, lines 26-30).

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47. Referring to claim 8, Clare discloses the invention substantively as described in claim 1. Clare does not specifically disclose the network is the Internet. Myer discloses the network is the Internet 22, (Figure 1). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Myer with Clare to facilitate device configuration in a network as supported by Myer (col. 1, lines 26-30).

48. Referring to claim 9, Clare discloses the invention substantively as described in claim 1. Clare does not disclose providing remote accessibility using WWW-based tools to data, code, management, and security functions. Myer discloses providing remote accessibility using WWW-based tools to data, code, management, and security functions (Figure 2). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Myer with Clare to facilitate device configuration in a network as supported by Myer (col. 1, lines 26-30).

49. Referring to claim 10, Clare discloses the invention substantively as described in claim 1. Clare does not specifically disclose that the gateway is coupled to the network elements, wherein the elements include repeaters and interrogators. Meyer discloses coupling a gateway with a plurality of network elements (Figure 1) and it is well known that repeaters and interrogators exist in the network (i.e. repeaters forward signals over long distances >100m which is necessary for the Ethernet protocol). It would be obvious to a person of ordinary skill in the art at the time the invention was made to



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combine the teaching of Myer with Clare to facilitate device configuration in a network as supported by Myer (col. 1, lines 26-30).

50. Referring to claim 13, Clare discloses the invention substantively as described in claim 1. Clare does not disclose supporting a plurality of levels of synchronization among different subsets of the plurality of network elements. Myer discloses that the master controller 36 can periodically poll each appliance 37-39 in order to obtain the status of the device (col. 3, lines 15-22). Furthermore, it is well known that polling periods can be user defined to utilize slow status-changing devices (light switches are slow to change status compared to acoustic sensors in a room, thereby requiring a different level of synchronization for the light switch than for the acoustic sensor). By this rationale it would have been obvious to one of ordinary skill in the art to modify the teachings of Clare and Myer to provide for multiple levels of synchronization to reduce wasted bandwidth on status updates for devices which have a slow status change interval.

51. Referring to claim 17, Clare discloses the invention substantively as described in claim 1. Clare does not disclose supporting a plurality of levels of synchronization among different subsets of the plurality of network elements. Myer discloses that the master controller 36 can periodically poll each appliance 37-39 in order to obtain the status of the device (col. 3, lines 15-22). Furthermore, it is well known that polling periods can be user defined to utilize slow status-changing devices (light switches are

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slow to change status compared to acoustic sensors in a room, thereby requiring a different level of synchronization for the light switch than for the acoustic sensor). By this rationale it would have been obvious to one of ordinary skill in the art to modify the teachings of Clare and Myer to provide for multiple levels of synchronization to reduce wasted bandwidth on status updates for devices which have a slow status change interval.

52. Referring to claims 19, 48 and 49, Clare discloses the invention substantively as described in claim 18. Clare does not specifically disclose aggregating data processed in a plurality of nodes for further processing by other nodes. Myer discloses polling devices by the master controller 36 in order to monitor the devices status, which can then be sent to a user interface device for display (the device status reports collected by the master controller 36 must inherently be processed by the client GUI device, or other node, in order for it to be displayable to the user) (col. 3, lines 15-25). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Myer with Clare to facilitate device configuration in a network as supported by Myer (col. 1, lines 26-30).

53. Referring to claim 38, Clare discloses the invention substantively as described in claim 1. Clare does not disclose comprising at least one database separate from the plurality of network elements. Myer discloses comprising at least one database separate from the plurality of network elements (col. 3, lines 45-50). It would be obvious

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to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Myer with Clare to facilitate device configuration in a network as supported by Myer (col. 1, lines 26-30).

54. Referring to claim 39, Clare in view of Myer disclose the invention substantively as described in claim 38. Clare in view of Myer do not specifically disclose that cooperative sensing uses information in the database to provide non-local event correlation. However, it is well known that multiple sensors are used to monitor multiple characteristics of a system (two sensors in a CPU measuring voltage and thermal temperature to ensure that a chip is operating efficiently). "Official Notice" is taken that both the concepts and advantages of providing for cooperative sensing is well known and expected in the art. It would have been obvious to one of ordinary skill in the art to include cooperative sensing to the system of Clare and Myer to allow numerous physical characteristics to be monitored simultaneously to provide a more detailed description of the monitored area.

55. Referring to claim 40, Clare in view of Myer discloses the invention substantively as described in claim 29. Claire further discloses data-driven alerting methods that recognize conditions on user-defined data relationships (i.e. user profiles) including coincidence in signal arrival, node power status, and network communication status (col. 18, lines 35-64).

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56. Referring to claim 41, Clare in view of Myer discloses the invention substantively as described in claim 29. Although neither Clare nor Myer specifically state implementing the database in a small footprint database and in a SQL database systems at a level of at least one server, it is well known that these features exist and would have been obvious to one of ordinary skill in the art to incorporate a small footprint database to the invention of Clare and Myer to provide the productivity and reliability that a SQL database allows, while still keeping information search and retrieval times to a minimum.

57. Claims 7, 25, and 62-79 are rejected for similar reasons as stated above. Furthermore Claim 62 recites limitations which are well known and expected in the art (the concept of reusing code is the basis for object-oriented programming, that code may be imported and reused in different situations) and would be considered obvious to one of ordinary skill in the art. Claims 63-79 recite limitations previously discussed and are further discussed in view of the other art below.

Claims 15 and 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clare in view of Davis et al. (USPN 5,742,829) (hereinafter Davis).

58. Clare discloses the invention substantively as described in claim 1. Clare does not disclose distributing code and data anticipated for future use through the sensor network using low priority messages, wherein the code and the data are downloadable

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from a storage device. Davis discloses a network wherein distributing code and data anticipated for future use through the sensor network using low priority messages (i.e. in the background), wherein the code and the data are downloadable from a storage device (it is inherent that the code/data are downloaded from a storage device) (col. 6, lines 27-65). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Davis with Clare to facilitate the installation of software on heterogeneous clients on the distributed network, thereby reducing installation costs and reducing downtime as supported by Davis (col. 2, lines 10-15).

Claims 19, 20, and 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clare in view of Makansi et al. (US 2002/0154631) (hereinafter Makansi).

59. Clare discloses the invention substantively as described in claim 1. Furthermore it is an inherent feature of Clare to aggregate the data to be transmitted to a user to conserve energy by reducing the amount of packets and saving bandwidth. Clare does not disclose the message packets include decoy packets wherein information to be transferred is impressed on random message packets to provide communication privacy. Makansi discloses message packets include decoy packets wherein information to be transferred is impressed on random message packets to provide communication privacy on a network (e.g. abstract). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of

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Makansi with Clare to provide messages to be transmitted in ways such that potential adversaries are given access to a relatively little amount of information as supported by Makansi (p. 1 ¶ 8).

Claims 9, 22-24, 27, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clare in view of Humpleman et al. (USPN 6,546,419) (hereinafter Humpleman).

60. Referring to claim 9, Clare discloses the invention substantively as described in claim 1. Clare does not disclose having the node of the first type containing a preprocessor with a state machine, an API and at least one sensor. Humpleman discloses a home sensor network wherein a first node 14 of a first type (Device A) contains a preprocessor with a state machine (it is inherent that a standard microprocessor emulates the effects of a state machine during its pipelining of instructions, fetch, decode, execute, store, etc.), an API (INTERFACE-A.xml), and at least one sensor (h/w) (e.g. abstract; Figure 16; col. 22, lines 52-58). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Clare with Humpleman to be able to control a plurality of diverse devices having different capabilities to communicate in order to accomplish tasks or to provide a service as supported by Humpleman (col. 2, lines 38-45).

61. Referring to claim 22, Clare discloses the invention substantively as described in claim 1. Clare does not disclose having the node of the second type including at least one preprocessor coupled to at least one processor and a plurality of API's, wherein the plurality of API's are coupled to control at least one device. Humpleman discloses a home sensor network wherein the node 14 of the second type (device B), contains at least one preprocessor coupled to at least one processor (it is well known that a server computer has multiple microprocessors embedded within the server which are either directly or indirectly coupled together), a plurality of API's (INTERFACE-A.XML and INTERFACE-B.XML), wherein the plurality of API's are coupled to control at least one sensor device (i.e. smoke detectors) (e.g. abstract; Figure 16; col. 22, lines 52-58). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Clare with Humpleman to be able to control a plurality of diverse devices having different capabilities to communicate in order to accomplish tasks or to provide a service as supported by Humpleman (col. 2, lines 38-45).

62. Referring to claim 23, Clare discloses the invention substantively as described in claim 1. Clare does not disclose layering the plurality of API's. Humpleman discloses layering the plurality of API's in the device (Figure 19, reference characters 72-92). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Clare with Humpleman to be able to control a plurality of diverse devices having different capabilities to communicate in order to accomplish tasks or to provide a service as supported by Humpleman (col. 2, lines 38-45).

63. Referring to claim 26, Clare discloses the preprocessor (ADC) performs data acquisition, and the processor (DSP) performs signal identification (col. 18, lines 35-64).

64. Referring to claim 24, Clare discloses the invention substantively as described in claim 1. Clare further discloses enabling distributed resource management by providing network resource information and message priority information to the plurality of network elements (col. 14, lines 12-34; col. 15, lines 10-25). Clare does not specifically disclose enabling distributed resource management through the plurality of API's. However Humpleman discloses using the API's to enable distributed resource management (i.e. enabling services to be used via the API's) (Figures 15-19 and pertinent portions of the disclosure). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Clare with Humpleman to be able to control a plurality of diverse devices having different capabilities to communicate in order to accomplish tasks or to provide a service as supported by Humpleman (col. 2, lines 38-45).

65. Referring to claim 27, Clare discloses the processor performs reconfiguration and signal identification (e.g. abstract).

66. Referring to claim 37, Clare discloses the invention substantively as described in claim 1. Clare does not disclose managing the plurality of network elements as a distributed database using a distributed resource management protocol, wherein the



plurality of network elements are reused among different applications, wherein the network elements are used in multiple classes of applications. Humpleman discloses managing the plurality of network elements as a distributed database using a distributed resource management protocol, wherein the plurality of network elements are reused among different applications, wherein the network elements are used in multiple classes of applications (the servers and clients can reside on the same node and execute both client and server applications) (col. 6, lines 18-34). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Clare with Humpleman to be able to control a plurality of diverse devices having different capabilities to communicate in order to accomplish tasks or to provide a service as supported by Humpleman (col. 2, lines 38-45).

### ***Conclusion***

67. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

68. Bandeira et al. (USPN 6,728,514) discloses a scalable wireless network topology systems and methods.

69. Poor (USPN 6,028,857) discloses a self-organizing wireless network

70. Frank et al. (USPN 6,532,494) discloses a closed-loop node membership monitor for network clusters.

71. Habert (USPN 6,480,900) discloses a communication method in a set of distributed systems via an Internet type network.

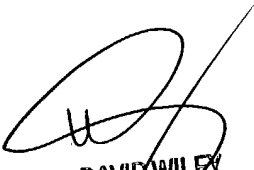
72. Agre et al. (USPN 6,208,247) discloses a wireless integrated sensor network using multiple relayed communications.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph E. Avellino whose telephone number is (703) 305-7855. The examiner can normally be reached on Monday-Friday 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (703) 308-5221. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JEA  
June 9, 2004

  
DAVID WILEY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100